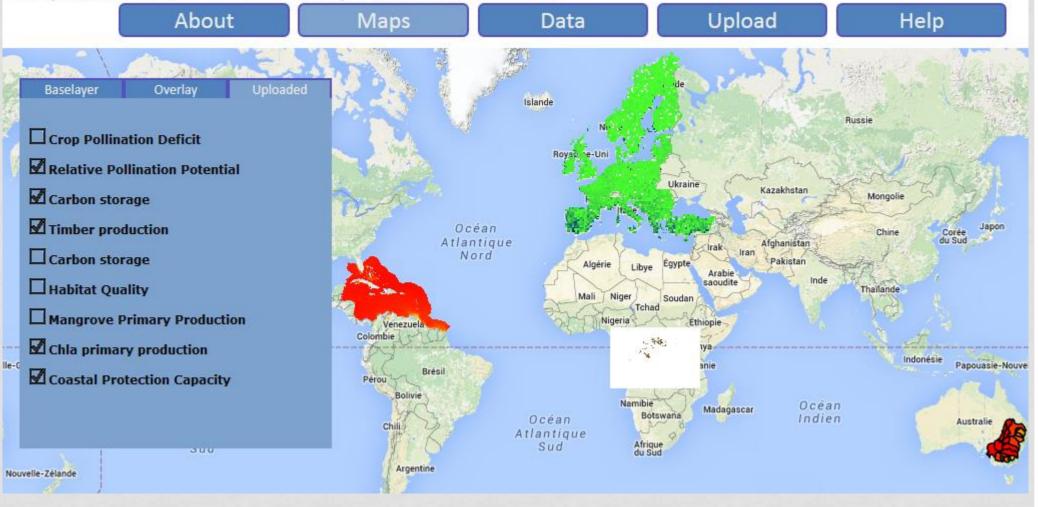
### MORE THAN MAPS

### THE EMOTIONAL AND BIO-POLITICS OF ECOSYSTEM SERVICES MAPS

Lucas Brunet, PhD student in sociology, Irstea

## 1. INTRODUCTION

#### **Ecosystem Services Partnership Visualization tool**



# 1. INTRODUCTION

ES Maps for communication and decision making

- EU BD 2020 Action 5, MAES, EFESE, other catalogs (Ipbes, BISE)
- Tool to operationalize the notion
- Valuation, quantification, tradeoffs, scenario assessment, priorization, CBA (Egoh et al., 2012)
- Social sciences standpoint
  - STS: inscription devices (Latour, 1990), devices to materialize questions (Clarke, 2005)
  - Foucault: apparatuses, devices of control, not "passive and neutral mediations" (Lascoumes, 2007). Map-making = political process
  - Performative effects: participatory and communicative (Crampton, 2009)

# 1. INTRODUCTION

Interest: multiple ways of being affected by ES maps

- Maps = material and affective assemblages
- Investigate interactions and encounters of ES practioners with ES maps.
- Pb: What could we learn from ther affects of ES practioners about their respective conceptions of science, management and politics?
- Maps = object that triggers discourse over type of science/management to be produced.

Affects

- Collective capacities always mediated in and through encounters (Anderson, 2015).
- Part of a shared dispositional relation that situates individuals.
- Structure of feeling : "a collective mood that exists in complex relation to other ways in which life is organized and patterned, without being reducible to those other ways" (Anderson, 2015).

# 2. ENCOUNTERING MAPS

- Map-making
- Maps as communication tools -> excitation of ES practioners
- But difficulties in interactions with nature managers, framed as an issue of representation

Problem of nature managers	Solution proposed by ES scientists	
Zooming on maps but not local data used. Maps not apprehended in their totality but in specific local places.	Decrease the definition of maps. Increase the size of pixels.	Table 1: Fetishes and facts,
Local results contested.	Raw data, should be presented as ES bunches.	the problem of reality of ES maps
Qualitative appreciation of some area.	Use of hot/cold spots, or gray levels.	
•	Involve the actors in the drafting of scenarii to make them understand that they are fictions.	
When map get published they can be used for any reasons, not controlled anymore by ES scientists.	Never publish raw maps and always decrease their definition.	

ES scientists = maps fetishists # Managers = maps factishists (Latour, 1996)

# 2. CONFLICTING CONCEPTIONS

- Division of ecologists' community on ES maps : opposite emotions in encounters
  - Fear and irritation. Maps = simplifications, dangerous, horrors.
  - Enthusiasm and excitation. Maps = tool for political and management purposes.
- A shift in the conception of ecological sciences
  - Criticisms: ES maps obvious, but more "serious" and "scientific"
  - Notion of ecosystem and thermodynamical physics. Qualitative and descriptive -> quantitative and objective science.
- ES scientists aware of maps' authority (Hauck, 2013)
  - Validation effect
  - How to communicate uncertainty? Worried of misuses.
  - Quantitative approach -> whole politics of life become possible

Item	Enthusiastic and excited ecologists	Worried and irritated ecologists
Process of knowledge development	Incremental. A map has errors, but the map will be improved progressively.	Knowledgeable, reflecting reality. Current lack of data and knowledge to develop maps prevent their development.
Complexity	Simplified through models. Interactions can be reintroduced through ES bunches and networks. But simplification is necessary to get global trends.	Central. Ecological processes are structured around networks of complexity and emergent properties. Over-simplifications are dangerous.
Data availability	All data available to be used.	Lack of relevant available data. Process going too fast.
Data use	Composition and normalization.	Heterogeneous data which cannot be added.
Scale of processes	Where data available, mostly regional or national scales.	ES only significant at the local scale. Dangers of scaling up/down.
Analysis	Through modeling.	Very precise analysis necessary. Modeling is an automatic process not appropriated.
Operationality	Development of a toolbox for informing public policies.	Limited at large scale. Operationality is only appropriated for management measures at the local scale.
Relevance	Only at a general level, for maps as a whole.	Not relevant. Not corresponding to expectations for environmental management.
Political decision	Informed. Further studies necessary.	Too much theoretical. Cautions are necessary.
Position toward controversies	Pragmatic. Prefer to propose concrete things rather than spending too much time on controversies.	Critic. Criticism is necessary because tools are limited and limits are forgotten. Some become involved to limit misuses, others prefer to remain outsiders.

# 3. ES BIOPOLITICS

#### Biopolitics

- Making live and letting die individuals within a population (Foucault, 1990, 1997, 2004)
- Ecosystems managed as a population and controled through ES' maps.
- Normalization and control of ecosystems' behaviors
  - Map-making to gather data
  - Ecosystems as calculable and predictable entities. New government of life.
- ES biopower: articulation of ecosystems with value and capital.
- Biopolitical techniques and capacities to affect/be affected
  - Foucault (2004): State phobia
  - ES maps of benefits # maps of submersible area, risks (Le Bourhis, 2007)
  - Governing by including life into the market (promises of joy, happiness, relief) # fear of doom classically associated with environmentalism.
  - 2 structures of feeling :
  - ES maps implement a biopower operating through a positive emotional politics.
  - Resistances to this biopower expresses by a claim for a negative emotional politics.

### REFERENCES

- Anderson, B. (2012). Affect and biopower: towards a politics of life. Transactions of the Institute of British Geographers, 37(1), 28-43.
- Anderson, B. (2015), Encountering affect: capacities, apparatuses, conditions. Farnham, Ashgate.
- Behrisch, L., Fieseler, C., & Rougerie, F. (2007). Les cartes chiffrées: l'argument de la superficie à la fin de l'Ancien Régime en Allemagne. Genèses, (3), 4-24.
- Benson, D. A., Karsch-Mizrachi, I., Lipman, D. J., Ostell, J., & Wheeler, D. L. (2008). GenBank. Nucleic acids research, 36(suppl 1), D25-D30.
- Callicott, J. B. (2010). Éthique de la terre. Éditions Wildproject.
- Clarke, A. (2005). Situational analysis: Grounded theory after the postmodern turn. Sage.
- Dodge, M., Kitchin, R., & Perkins, C. (Eds.). (2011). The map reader: Theories of mapping practice and cartographic representation. John Wiley & Sons.
- Drakou, E. G., Crossman, N. D., Willemen, L., Burkhard, B., Palomo, I., Maes, J., & Peedell, S. (2015). A visualization and data-sharing tool for ecosystem service maps: Lessons learnt, challenges and the way forward. Ecosystem Services, 13, 134-140.
- Egoh B., Drakou E.G., Dunbar M.B., Maes J., Willemen L. (2012) Indicators for Mapping Ecoystem Services: A Review. Publications Office of the European Union, Luxembourg. ISBN: 978-92-79-25821-3. 111pp.
- Foucault, M. (1990). The History of Sexuality [1976]. na.
- Foucault, M. (1997). "Il faut défendre la société". Cours au Collège de France, 1976. Paris: Seuil/Gallimard
- Foucault, F. (2004). Naissance de la biopolitique: cours au Collège de France 1978-1979. Paris: Seuil/Gallimard.
- Gómez-Baggethun, E., De Groot, R., Lomas, P. L., & Montes, C. (2010). The history of ecosystem services in economic theory and practice: from early notions to markets and payment schemes. Ecological economics, 69(6), 1209-1218.
- Haraway, D. J. (1997). Modest-Witness@ Second-Millennium. FemaleMan-Meets-OncoMouse: Feminism and Technoscience. Psychology Press.
- Hauck, J., Görg, C., Varjopuro, R., Ratamäki, O., Maes, J., Wittmer, H., & Jax, K. (2013). "Maps have an air of authority": potential benefits and challenges of ecosystem service maps at different levels of decision making. Ecosystem Services, 4, 25-32.
- Kronenberg, J. (2014). What can the current debate on ecosystem services learn from the past? Lessons from economic ornithology. Geoforum, 55, 164-177.
- Lascoumes, P. (2007). Gouverner par les cartes. Genèses, (3), 2-3.
- Latour, B. (1990). Drawing things together. The Map Reader: Theories of Mapping Practice and Cartographic Representation, 65-72.
- Latour, B. (1996). Petite réflexion sur le culte moderne des dieux faitiches. La Découverte.
- Lavorel, S., Arneth, A., Bayer, A., Bondeau, A., Lautenbach, S., Marba, N., Ruiz, A., Schulp, N., Seppelt, R., van Teeffelen, A., Vannier, C. & Verburg, P. (2014) Transferable georeferenced metrics and GIS based quantification functions - Pathways to the incorporation of biodiversity into ecosystem service biophysical assessment. OPERA Report D3.1. pp.126.
- Le Bourhis, J. P. (2007). Du savoir cartographique au pouvoir bureaucratique. Les cartes des zones inondables dans la politique des risques (1970-2000). Genèses, (3), 75-96.
- Nordhaus, T., Shellenberger, M. (2007). Break Through. From the Death of Environmentalism to the Politics of Possibility, New York, Houghton Mifflin Company.
- Robertson, M. M. (2006). The nature that capital can see: science, state, and market in the commodification of ecosystem services. Environment and Planning D: society and space, 24(3), 367-387.
- Swyngedouw, E. (2010). Apocalypse forever? Post-political populism and the spectre of climate change. Theory, Culture & Society, 27(2-3), 213-232.
- Tansley, A. G. (1935). The use and abuse of vegetational concepts and terms. *Ecology*, 16(3), 284-307.
- Vannier et al. Upcoming
- Worster, D. (1994). Nature's economy: a history of ecological ideas. Cambridge University Press.